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EXAMINER

NATNAEL, PAULOS M

ART UNIT PAPER NUMBER

2614

DATE MAILED: 04/07/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/577,478

Applicant(s)

HEATH, THOMAS S.

Examiner

Paulos M. Natnael

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. After further and careful consideration of the claimed subject matter, the Final Rejection of 8/15/03 has been withdrawn. A non-final rejection follows based on a newly found reference. Examiner regrets any inconvenience this might cause the applicant.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al, U.S. Pat. No. 6,646,655.

Considering claim **1**, Brandt et al. disclose all claimed subject matter:

a) the claimed method of extracting a sequence of video frames is met by the video input, fig.2, which inputs $F_n \dots F_2, F_1$ frames of video signals.

b) the claimed method of upsampling each of the video frames is met by the upsampler 115, fig.7, which figure discloses the slide generator 23 of fig.2;

c) the claimed method of interpolating the up sampled video frames is met by the averager 117, FIG.7; (see col. 9, lines 42-47)

e) the claimed method of creating a single image from the aligned video frames is met by the coalescing stage 25, Fig. 7 and 8; (col. 10, lines 22-31)

Except for;

d) the claimed method of aligning the interpolated video;

Regarding d), Brandt discloses that the individual frames may be aligned at different stages of the processing. Brandt does not specifically disclose the alignment processing should take place after the interpolation. Brandt teaches however that "... FIG. 7 is a logic diagram of the slide generator 23 according to one embodiment... Preferably, the slide generator selects frames that exhibit substantially no camera motion and foreground change relative to one another to avoid having to align the frames. This is not necessary however, and in an alternate embodiment, a registration stage may be included in the slide generator 23." (col. 9, lines 20-32)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Brandt by providing the process of alignment process after the interpolation of the frames so that the slides are aligned and no alignment of the slides would be needed in the coalescing stage 25.

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Considering claim 2, the claimed method wherein the sequence of video frames are low resolution images, is met by the disclosure that "an original video that contains a relatively small video inset overlaid on a set of relatively low resolution still images is automatically converted to separate, but time correlated presentations of relatively high quality slides and an enlarged video." (col. 17, lines 59-63)

Considering claim 3, the claimed method wherein said up sample step is by a factor of 4;

Regarding claim 3, Brandt et al disclose upsampling by doubling the resolution of frames. Nevertheless, it would have been obvious matter of design choice to modify the Brandt et al. reference by having an up-sampling of a factor of 4, or any other such number, since applicant has not disclosed that having the sampling factor of 4 solves any stated problem or is for any particular purpose, and it appears that any up sampling factor would perform equally well with the disclosed sampling method of Brandt et al.

Considering claim 4, the claimed method wherein said aligning step comprises aligning the video images in an x direction and a y direction in a center portion of interest in each video frame;

See rejection of claim 1(d);

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Considering claim 5, the claimed comprising extracting the sequence of video frames at 30 frames/sec is implied because the rate of 30 frames/sec is well known to be a standard rate in video/television systems.

Considering claim 6, the claimed wherein the sequence of video frames includes 5 video frames;

Regarding claim 6, Brandt et al discloses $F_1 \dots F_n$ frames in the sequence of video signals. Therefore, it would have been an obvious matter of design choice to modify the Brandt reference by choosing any number of sequence of video frames, since applicant has not disclosed that having five video frames in a sequence of video frames solves any stated problem and it appears that any number of frames would perform equally well with the disclosed up sampling method of the reference of Brandt

Considering claim 7, the claimed method of correlating the up sampled video images, is met by the disclosure that "The video input 12 may be any time-ordered sequence of images for which the majority of successive pairs of images in the sequence are substantially correlated with one another..." (Col. 4, lines 42-44) and that "If the individual slides of the different language slide sets 191 are correlated with one another (e.g., by filename, correlating data structure or other technique), the slide substitution stage can automatically internationalize the output slide set according to user preferences." (col. 13, lines 42-45)

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Considering claim **8**, the claimed averaging a pixel intensity from each of the up sampled video frames, is met by the averager 117, fig.7;

Considering claim **9**, the claimed method of compensating for platform movement and rotation zoom, is met by the camera motion detector 35, fig. 3, outputs a camera motion vector 41 (CM) that indicates a frame-to-frame change in zoom, x-axis translation and y-axis translation of the camera used to capture the video. (col. 6, lines 18-25)

Considering claim **10**, the claimed aligning each the extracted sequence of video frames before said up sample step;

Regarding claim 10, see rejection of claim 1(c).

Considering claim **11**, the claimed identifying commonality from one individual frame to the next and overlapping the individual frames and displaying an image representing a continuous area is met by the slide matching stage, Fig. 11.

Considering claim **12**, the claimed extracting the sequence of video frames at 30 frames/sec is implied because the rate of 30 frames/sec is a well-known, standard rate in television systems.

Considering claim **13**, the claimed wherein the sequence of video frames includes 5 video frames.

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Regarding claim 13, see rejection of claim 6.

Considering claim **14**, the claimed correlating the up sampled video images is implied, because it's well known in the art of video processing to be a necessary step or process during sampling and/or interpolating of the video images.

Considering claim **15**, see rejection of claim 8;

Considering claim **16**, see rejection of claim 9;

Considering claim **17**, the claimed aligning each the extracted sequence of video frames before said up sample step.

Regarding claim 17, see rejection claim 1(d).

Considering claim **18**, see rejection of claim 11.

Considering claim **19**, see rejection of claim 12.

Considering claim **20**, see rejection of claim 1.

Considering claim **21**, Brandt et al. disclose the following claimed subject matter, note;

a) the claimed at least one sequence of machine executable instructions is met by a program code, which is executed by memory 425, fig.13. (col. 18, line 64 through col. 19, line 3)

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b) the claimed a medium bearing the executable instructions in machine form, is met by memory 425, fig.13;

c) the claimed... wherein execution of the instructions by one or more processor causes the one or more processor to extract a sequence of video frames, up sample each of the video frames; interpolate the up sampled video frames; align the interpolated video frames; and create a single image from the aligned video frames;

Regarding (c), see rejection of claim 1

Considering claim **22**, Brandt et al. disclose the following claimed subject matter, note;

a) the claimed processor is met by Processing Unit 423, FIG. 21;

b) the claimed memory coupled to said processor is met by system memory 425, FIG. 21;

c) the claimed memory having stored therein sequences of instructions when executed by said processor, causes said processor to perform the steps is met is met by memory 425, fig.13, which executes program code.

d) the claimed steps of extract a sequence of video frames; up sample each of the video frames; interpolate the up sampled video frames; align the interpolated video frames; and create a single image from the aligned video frames;

Regarding d), see rejection of claim 1(a)-(e).

Considering claim **23**, see rejection of claim 1.

Response to Arguments

4. Applicant's arguments with respect to claims 1-23 filed in the Appeal Brief of January 20, 2004 have been fully considered but they are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PMN
April 3, 2004


PAULOS M. NATNAEL
PATENT EXAMINER